PATENT ABSTRACTS OF JAPAN

(11)Publication number:

2001-290612

(43)Date of publication of application: 19.10.2001

(51)Int.CI.

G06F 3/12 B41J 29/00 B41J 29/38 H04N 1/00

(21)Application number: 2000-106097

(71)Applicant : NEC CORP

(22)Date of filing:

07.04.2000

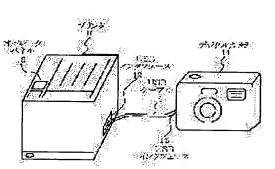
(72)Inventor: OTSU TOMOHIKO

(54) PRINT SYSTEM

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a print system capable of photographing by means of a digital camera corresponding to a key input from the operator panel of a printer and capable of printing, while selecting any one of a photographed image file, an image file photographed by the digital camera in the past and an image file stored in a mass storage.

SOLUTION: For this print system, the printer has the USB(universal serial bus) interface of mass storage class, so that the device of mass storage class can be connected and the image file can be directly printed out by the printer.



LEGAL STATUS

[Date of request for examination]

09.03.2001

[Date of sending the examiner's decision of

06.05.2003

rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office

*·NOTICES *

Japan Patent Office is not responsible for any damages caused by the use of this translation.

- 1. This document has been translated by computer. So the translation may not reflect the original precisely.
- 2. **** shows the word which can not be translated.

3.In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] The print system characterized by being able to perform connection of the device of a mass storage class and making an image file as for direct print-out to the aforementioned printer by giving the USB (Universal Serial Bus) interface of a mass storage class to a printer. [Claim 2] The print system according to claim 1 characterized by having the aforementioned printer characterized by providing the following. In order to connect the aforementioned printer and the aforementioned device of a mass storage class, the USB interface of the aforementioned printer and the USB interface of the aforementioned device are connected by the USB cable, and in the aforementioned USB interface of the aforementioned printer, it is a parallel interface connector. The USB series B plug connector which connects with a host computer and sends data to the aforementioned host computer to the BULK demand from the aforementioned host computer, and an Interrupt (interruption) demand. The operator panel which has the LCD panel which displays the key which is equipped with the USB series A plug connector which connects with the aforementioned device, carries out the same operation as the aforementioned host computer, and advances a demand to the aforementioned device using a BULK demand and an Interrupt demand, and outputs various directions, and the contents of directions.

[Claim 3] The print system according to claim 2 carry out having the aforementioned operator panel of the aforementioned printer which consists of the aforementioned device, the CAPTURE key which issue the directions to the aforementioned device at the time of connection, a LCD panel which display the state of the image file name memorized by the aforementioned device and the aforementioned device, the rise key which scrolls a LCD display upwards and the down key which scrolls a LCD display downward, and a SELECT key which use for selection and the mode selection of an image file as the feature.

[Claim 4] The print system according to claim 1 characterized by the aforementioned device being a digital camera.

[Claim 5] The print system according to claim 1 characterized by the aforementioned device being a removable desk.

[Claim 6] The print system according to claim 1 characterized by the aforementioned device being a hard disk.

[Translation done.]

* NOTICES *

Japan Patent Office is not responsible for any damages caused by the use of this translation. 1. This document has been translated by computer. So the translation may not reflect the original precisely.

2.*** shows the word which can not be translated.

3.In the drawings, any words are not translated.

DETAILED DESCRIPTION

Detailed Description of the Invention

[The technical field to which invention belongs] It is related with the print system characterized key input from the operator panel of a printer, choosing the photoed image file or the image file photoed in the past with the digital camera, and the image file included in mass storage about a by for especially this invention being able to perform photography with a digital camera by the print system, and printing being able to do it.

directly and transmitting a picture It is not necessary to connect two AC adapters to an electric light line as electric supply to picture photography equipment being possible from a printer side. 252489.A, when linking picture photography equipments, such as a digital camera, with a printer cable, electric power is supplied by the digital camera through the feeder contained in this USB data is transmitted, the energization to the display means of picture photography equipment is When it becomes easy to manage the code of the circumference of a power supply and image [Description of the Prior Art] As this kind of print system is conventionally shown in JP,11-[0003] When a digital camera is connected to a printer through a USB (Universal Serial Bus) reduced, and a possibility that power supplies may run short is prevented. cable from the printer side to which the AC adapter was connected.

[Problem(s) to be Solved by the Invention] The 1st trouble in this conventional print system is [0004]

possible [print-out] for a printer only in operator operation from a camera in the print system [0005] The 2nd trouble is that data are not direct made as for print-out to a printer with the of the conventional technology.

[0006] The purpose of this invention is to offer the print system characterized by being able to perform photography with a digital camera in the key input from the operator panel of a printer, conventional technology when a mass storage device is connected.

choosing the photoed image file or the image file photoed in the past with the digital camera, and the image file included in mass storage, and printing being possible.

connected by the USB cable. to the aforementioned USB interface of the aforementioned printer It connects with a parallel interface connector and a host computer. The BULK demand from the out. A BULK demand, It has the aforementioned printer which is equipped with the USB series A interface of the aforementioned printer and the USB interface of the aforementioned device are aforementioned device and the same operation as the aforementioned host computer is carried printer, connection can do the device of a mass storage class and an image file is made as for aforementioned host computer, The USB series B plug connector which sends data to the [Means for Solving the Problem] By giving the USB interface of a mass storage class to a aforementioned host computer to an Interrupt (interruption) demand, It connects with the aforementioned printer and the aforementioned device of a mass storage class The USB direct print-out to the aforementioned printer by the print system of this invention. [0008] Moreover, in order that the print system of this invention may connect the

demand, and is equipped with the operator panel which has the LCD panel which displays the key olug connector which advances a demand to the aforementioned device using an Interrupt which outputs various directions, and the contents of directions.

2/4 ページ

.0009] Furthermore, the print system of this invention has the aforementioned operator panel of which scrolls a LCD display downward, and a SELECT key which use for selection and the mode which issue the directions to the aforementioned device at the time of connection, a LCD panel which display the state of the image file name memorized by the aforementioned device and the he aforementioned printer which consists of the aforementioned device, the CAPTURE key aforementioned device, the rise key which scrolls a LCD display upwards and the down key selection of an image file.

[0010] Furthermore, the print system of this invention is characterized by the aforementioned device being a digital camera. 0011] Furthermore, the print system of this invention is characterized by the aforementioned device being a removable desk.

0012] Furthermore, the print system of this invention is characterized by the aforementioned device being a hard disk.

connection being able to do the device of a mass storage class and making an image file as for 0014] Next, the gestalt of operation of this invention is explained in detail with reference to a direct print-out to a printer by giving the USB interface of a mass storage class to a printer. Embodiments of the Invention] The print system of this invention is characterized by for

operation gestalt, and drawing 3 are drawings showing an example of the operator panel of the invention, drawing in which drawing 2 shows an example of the interface of the printer of this 0015] The connection diagram in which drawing 1 shows the gestalt of 1 operation of this printer of the gestalt of this operation. The composition of the gestalt of this operation is explained with reference to drawing 1, drawing 2, and drawing 3.

[0016] Below, the case where a digital camera is used is described as a device of a mass storage

[0017] In order to connect a printer 10 and a digital camera 11, the USB interface 12 of a printer [0018] The parallel interface connector 20 of the printer interface currently used for the USB 10 and the USB interface 13 of a digital camera 11 are connected by the USB cable 14.

interface 12 of a printer from the former, it connects with the personal computer used as a host which sends data to a host computer to the BULK demand which is a demand of reception, and computer. The data transmission from a host computer, Or the USB series B plug connector 21 an Interrupt (interruption) demand, It has the USB series A plug connector 22 which connects computer, and advances a demand to a device using a BULK demand and an Interrupt demand. Furthermore, a printer 10 is equipped with the operator panel 15 which has the LCD (Liquid with the digital camera 11 equivalent to a device, carries out the same operation as a host Crystal Display) panel 34 which displays the keys 30, 31, 32, and 33 which output various directions, and the content of directions.

upwards and the down key 32 which scrolls a LCD display downward, and a SELECT key 33 used for selection of an image file and mode selection are consisted of by the operator panel 15 of a may be turned off, the image file name which is contained in the digital camera 11 and the LCD [0019] The CAPTURE key 30 which issues directions so that the shutter of a digital camera 11 panel 34 which displays the state of a camera, the rise key 31 which scrolls a LCD display printer 10 at the time of a digital camera 11 and connection.

[0020] Drawing 4 is the flow chart of printer operation, and drawing 5 is drawing showing the flow drawing 3, and operation of the form of this operation is explained with reference to drawing 4 of the signal of a printer and a digital camera. It combines with drawing 1, drawing 2, and

0021] A printer 10 and a digital camera 11 are connected and it explains from the state of going 0022] A digital camera 11 is connected to the USB series A plug connector 22 by the USB into the mode in which a printer 10 carries out a direct access to a digital camera 11.

cable 14, and if it goes into the mode which carries out a direct access to a digital camera 11, the LCD panel 34 will display a file name as shown in <u>drawing 3</u> (540).

[0023] Next, when it keys by the CAPTURE key 30 which issues directions so that the shutter of the digital camera 11 of the operator panel 15 may be turned off, in a digital camera 11, it is Capture. Command50 is sent. A digital camera 11 performs photography processing 59 (S41). A printer 10 is Status every fixed interval of a certain. Command51 is sent.

[0024] When a digital camera 11 is 60 in an image processing, the status 52 in an image processing is returned to a printer. At the time under image processing, "Processing" is

displayed on the LCD panel 34 (S42).
[0025] Status By Command53, when a camera is not 60 in an image processing, the Idle state status 54 is returned to a printer 10 th is processing.

status 54 is returned to a printer 10. It is recognized as the printer 10 having carried out the image processing to receiving the Idle state status 54, and changes to the LCD panel 34 like <u>drawing 3</u> at the file name display in a digital camera 11 (S43).

[0026] Next, the operator of a printer chooses an image file by the rise key 31 of a scrolling key

sector of No. 4, and the read-out size from there is set to a number of cylinders, and decided). A the selected file is completed. It returns to Command55 and reception of image data is repeated. constitutionally, a thing of a mass storage device called a cylinder, a header, and a sector exists, and the down key 32 of LCD panel 34 display, pushes the SELECT key, and is Read to a digital USB) to Bulk of USB as an image data demand. Request57 is taken out. A digital camera 11 will When the received data are an image file, a printer 10 prints out by changing an image file into processing. Next, a printer 10 is Data (as opposed to the port which performs data transfer of the operator panel 15 or the format chosen by default setup from the start at print data (S45). digital camera 11 is ReadCommand to a printer 10, after the image data selection 62 finishes. be in image data transfer 63 state, and will send image data 58 to a printer 10. It is Read until Then, return processing can be continued to \$41 and \$44. It explains from the state of going into the mode which combines explanation of the form of other operations of operation with it sets to deciding a read-out position with No. 3 of a cylinder, the header of No. 1, and the drawing 5 about connection between a printer 10 and the device (it replaces with the digital camera 11. Command55 is sent. Read Command55 chooses the number of cylinder header drawing 1, drawing 2, and drawing 3, and carries out a direct access using drawing 4 and ACK (Acknowledge)56 is returned (S44). Image data selection processing is automatically performed at the time of the mode which prints immediately the data which photoed this selector sector sectors of image data (in order to choose the memory area of a device, camera 11 of drawing 1) of the mass storage class of a USB interface. A device puts a removable desk, a hard disk, etc.

[0027] The device of a mass storage class is connected to the USB series A plug connector 22 by the USB cable 14, and a file name is displayed on the LCD panel 34 like <u>drawing 3</u>. Then, operation of S44 to use is attained. Next, it explains from S44.

Operation of 374 to use is attained. Next, it explains from 544.

[0028] When an image file is chosen and it pushes SELECT key 33 by the rise key 31 of the scrolling key on the operator panel 15 of a printer 10, and the down key 32, it is Read to a mass storage device. Command55 is sent. Read Command55 chooses the number of cylinder header selection sectors of data. A mass storage device is Read to a printer 10, after the selection 62 of image data finishes. Command ACK (Acknowledge)56 is returned (544).

[0029] Next, a printer 10 is Data to the port which performs data transfer of USB as an image data demand. Request57 is taken out. A mass storage device will be in image data transfer 63 state, and will send image data 58 to a printer 10. It is Read until the selected file is completed. It returns to Command55 and reception is repeated. When the received data are an image file, a printer 10 prints out by changing an image file into the operator panel 15 or the format chosen by default setup from the start at print data (545). Then, return processing can be continued to

[0030]

[Effect of the Invention] as explained above, the effect of this invention is that a print system is realizable easily, when connection can do a printer and a digital camera direct and remote operation of a digital camera can perform from a printer the thing which turn off the shutter of a

digital camera and for which photography directions can be issued like, that picture selection in a digital camera can be performed from a printer, and printing out an image file by the bird clapper possible

[0031] Moreover, it is direct connection between a printer and the mass storage device of a USB interface being performed from a printer, and enabling possible print-out of printing out the image file of a mass storage device without a personal computer to a printer by the bird clapper of an image file.

[Translation done.]

2003/09/19

2/4 ページ

* NOTICES *

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.

2.*** shows the word which can not be translated.

3.In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[The technical field to which invention belongs] It is related with the print system characterized key input from the operator panel of a printer, choosing the photoed image file or the image file photoed in the past with the digital camera, and the image file included in mass storage about a by for especially this invention being able to perform photography with a digital camera by the print system, and printing being able to do it.

directly and transmitting a picture It is not necessary to connect two AC adapters to an electric light line as electric supply to picture photography equipment being possible from a printer side. 252489.A, when linking picture photography equipments, such as a digital camera, with a printer cable, electric power is supplied by the digital camera through the feeder contained in this USB data is transmitted, the energization to the display means of picture photography equipment is When it becomes easy to manage the code of the circumference of a power supply and image [Description of the Prior Art] As this kind of print system is conventionally shown in JP,11-[0003] When a digital camera is connected to a printer through a USB (Universal Serial Bus) reduced, and a possibility that power supplies may run short is prevented. cable from the printer side to which the AC adapter was connected.

[0004]

[Problem(s) to be Solved by the Invention] The 1st trouble in this conventional print system is possible [print-out] for a printer only in operator operation from a camera in the print system of the conventional technology.

[0005] The 2nd trouble is that data are not direct made as for print-out to a printer with the conventional technology when a mass storage device is connected.

choosing the photoed image file or the image file photoed in the past with the digital camera, and [0006] The purpose of this invention is to offer the print system characterized by being able to perform photography with a digital camera in the key input from the operator panel of a printer, the image file included in mass storage, and printing being possible.

printer, connection can do the device of a mass storage class and an image file is made as for [Means for Solving the Problem] By giving the USB interface of a mass storage class to a direct print-out to the aforementioned printer by the print system of this invention.

connected by the USB cable, to the aforementioned USB interface of the aforementioned printer It connects with a parallel interface connector and a host computer. The BULK demand from the interface of the aforementioned printer and the USB interface of the aforementioned device are aforementioned device and the same operation as the aforementioned host computer is carried aforementioned host computer, The USB series B plug connector which sends data to the aforementioned host computer to an Interrupt (interruption) demand, It connects with the aforementioned printer and the aforementioned device of a mass storage class The USB [0008] Moreover, in order that the print system of this invention may connect the

out. A BULK demand, It has the aforementioned printer which is equipped with the USB series A

demand, and is equipped with the operator panel which has the LCD panel which displays the key olug connector which advances a demand to the aforementioned device using an Interrupt which outputs various directions, and the contents of directions.

(0009] Furthermore, the print system of this invention has the aforementioned operator panel of which scrolls a LCD display downward, and a SELECT key which use for selection and the mode which display the state of the image file name memorized by the aforementioned device and the which issue the directions to the aforementioned device at the time of connection, a LCD panel the aforementioned printer which consists of the aforementioned device, the CAPTURE key aforementioned device, the rise key which scrolls a LCD display upwards and the down key selection of an image file.

.0010] Furthermore, the print system of this invention is characterized by the aforementioned device being a digital camera.

0011] Furthermore, the print system of this invention is characterized by the aforementioned device being a removable desk.

0012] Furthermore, the print system of this invention is characterized by the aforementioned device being a hard disk.

connection being able to do the device of a mass storage class and making an image file as for [0014] Next, the gestalt of operation of this invention is explained in detail with reference to a direct print-out to a printer by giving the USB interface of a mass storage class to a printer. [Embodiments of the Invention] The print system of this invention is characterized by for

operation gestalt, and <u>drawing 3</u> are drawings showing an example of the operator panel of the invention, drawing in which drawing 2 shows an example of the interface of the printer of this [0015] The connection diagram in which drawing 1 shows the gestalt of 1 operation of this printer of the gestalt of this operation. The composition of the gestalt of this operation is explained with reference to drawing 1, drawing 2, and drawing 3

[0016] Below, the case where a digital camera is used is described as a device of a mass storage

[0017] In order to connect a printer 10 and a digital camera 11, the USB interface 12 of a printer interface 12 of a printer from the former, it connects with the personal computer used as a host computer. The data transmission from a host computer, Or the USB series B plug connector 21 which sends data to a host computer to the BULK demand which is a demand of reception, and an Interrupt (interruption) demand, It has the USB series A plug connector 22 which connects computer, and advances a demand to a device using a BULK demand and an Interrupt demand. [0018] The parallel interface connector 20 of the printer interface currently used for the USB Furthermore, a printer 10 is equipped with the operator panel 15 which has the LCD (Liquid with the digital camera 11 equivalent to a device, carries out the same operation as a host Crystal Display) panel 34 which displays the keys 30, 31, 32, and 33 which output various 10 and the USB interface 13 of a digital camera 11 are connected by the USB cable 14. directions, and the content of directions.

upwards and the down key 32 which scrolls a LCD display downward, and a SELECT key 33 used for selection of an image file and mode selection are consisted of by the operator panel 15 of a [0019] The CAPTURE key 30 which issues directions so that the shutter of a digital camera 11 may be turned off, the image file name which is contained in the digital camera 11 and the LCD panel 34 which displays the state of a camera, the rise key 31 which scrolls a LCD display printer 10 at the time of a digital camera 11 and connection.

.0020] Drawing 4 is the flow chart of printer operation, and drawing 5 is drawing showing the flow drawing 3, and operation of the form of this operation is explained with reference to drawing 4 of the signal of a printer and a digital camera. It combines with drawing 1, drawing 2, and

[0021] A printer 10 and a digital camera 11 are connected and it explains from the state of going 0022] A digital camera 11 is connected to the USB series A plug connector 22 by the USB into the mode in which a printer 10 carries out a direct access to a digital camera 11.

2003/09/19

[0023] Next, when it keys by the CAPTURE key 30 which issues directions so that the shutter of the digital camera 11 of the operator panel 15 may be turned off, in a digital camera 11, it is Capture. Command50 is sent. A digital camera 11 performs photography processing 59 (541). A printer 10 is Status every fixed interval of a certain. Command51 is sent.

[0024] When a digital camera 11 is 60 in an image processing, the status 52 in an image processing is returned to a printer. At the time under image processing, "Processing" is displayed on the LCD panel 34 (S42).

[0025] Status By Command53, when a camera is not 60 in an image processing, the Idle state status 54 is returned to a printer 10. It is recognized as the printer 10 having carried out the image processing to receiving the Idle state status 54, and changes to the LCD panel 34 like drawing 3 at the file name display in a digital camera 11 (S43).

sector of No. 4, and the read-out size from there is set to a number of cylinders, and decided). A the selected file is completed. It returns to Command55 and reception of image data is repeated. constitutionally, a thing of a mass storage device called a cylinder, a header, and a sector exists, <u>drawing 3</u> at the file name display in a digital camera 11 (S43). [0026] Next, the operator of a printer chooses an image file by the rise key 31 of a scrolling key USB) to Bulk of USB as an image data demand. Request57 is taken out. A digital camera 11 will and the down key 32 of LCD panel 34 display, pushes the SELECT key, and is Read to a digital When the received data are an image file, a printer 10 prints out by changing an image file into processing. Next, a printer 10 is Data (as opposed to the port which performs data transfer of be in image data transfer 63 state, and will send image data 58 to a printer 10. It is Read until the operator panel 15 or the format chosen by default setup from the start at print data (S45) Then, return processing can be continued to S41 and S44. It explains from the state of going digital camera 11 is ReadCommand to a printer 10, after the image data selection 62 finishes. drawing 5 about connection between a printer 10 and the device (it replaces with the digital into the mode which combines explanation of the form of other operations of operation with it sets to deciding a read-out position with No. 3 of a cylinder, the header of No. 1, and the camera 11. Command 55 is sent. Read Command 55 chooses the number of cylinder header drawing 1, drawing 2, and drawing 3, and carries out a direct access using drawing 4 and ACK (Acknowledge)56 is returned (S44). Image data selection processing is automatically performed at the time of the mode which prints immediately the data which photoed this camera 11 of drawing 1) of the mass storage class of a USB interface. A device puts a selector sector sectors of image data (in order to choose the memory area of a device, removable desk, a hard disk, etc.

[0027] The device of a mass storage class is connected to the USB series A plug connector 22 by the USB cable 14, and a file name is displayed on the LCD panel 34 like <u>drawing 3</u>. Then, operation of S44 to use is attained. Next, it explains from S44.

[0028] When an image file is chosen and it pushes SELECT key 33 by the rise key 31 of the scrolling key on the operator panel 15 of a printer 10, and the down key 32, it is Read to a mass storage device. Command55 is sent. Read Command55 chooses the number of cylinder header selector sector sectors of data. A mass storage device is Read to a printer 10, after the selection 62 of image data finishes. Command ACK (Acknowledge)56 is returned (S44).
[0029] Next, a printer 10 is Data to the port which performs data transfer of USB as an image data demand. Request57 is taken out. A mass storage device will be in image data transfer 63 state, and will send image data 58 to a printer 10. It is Read until the selected file is completed. It returns to Command55 and reception is repeated. When the received data are an image file, a printer 10 prints out by changing an image file into the operator panel 15 or the format chosen by default setup from the start at print data (S45). Then, return processing can be continued to S44.

[Effect of the Invention] as explained above, the effect of this invention is that a print system is realizable easily, when connection can do a printer and a digital camera direct and remote operation of a digital camera can perform from a printer the thing which turn off the shutter of a

digital camera and for which photography directions can be issued like, that picture selection in a digital camera can be performed from a printer, and printing out an image file by the bird clapper possible

[0031] Moreover, it is direct connection between a printer and the mass storage device of a USB interface being performed, and file selection being performed from a printer, and enabling possible print-out of printing out the image file of a mass storage device without a personal computer to a printer by the bird clapper of an image file.

[Translation done.]

2003/09/19

(19) 日本国特許庁 (JP)

公裁区 盐 华 噩 4 (12)

特開2001-290612 (11)特許出顧公開番号

(P2001-290612A)

平成13年10月19日(2001.10.19) アーマユード(参考) 5B021 5 C 0 6 2 2C061 (43)公開日 3/15 29/38 9 G06F B41J H04N

全6月) 70 請求項の数6 警查請求 有

B41J 29/00

00/62 इ 3/12 88/83 1/00

G06F B41J 51) Int.Cl.

H04N

(21) 出版部中	特配2000-106097(P2000-106097)	(11) 田田人	(71) 出版人 000004237
1			日本電気株式会社
(ZZ)	平成12年4月7日(2000.4.7)		東京都港区芝五丁目7番1号
		(72) 発明者	大津 智彦
			東京都港区芝五丁目7番1号 日本電
			式会社内
		(74)代理人	(74) 代理人 100082835
			弁理士 京本 直樹 (外2名)
		F9-4(Fターム(参考) 20061 AP01 AP06 CG02 CG12 HH03
			HJOG HKOS HNO4 HNI5 HQ21
			5B021 AA30 BB02 BB07 PP06
			50062 AA01 AB11 AB12 AB16 AB20
			AB22 AB25 AC51 AD05

如茶

(54) [発明の名称] プリントシステム

択して印刷ができることを特徴とするプリントシステム 【磔題】 プリンタのオペレータパネルからのキー入力に イル、または、デジタルカメラで過去に撮影した画像フ アイル、レスストレージに入っている画像ファイルを踏 よりデジタルカメラでの撮影ができ、撮影した画像ファ を提供することにある。

ストレージクラスのUSB (Universal Se り、マスストレージクラスのデバイスの接続ができ、画 [解決手段] このブリントシステムは、プリンタにマス rial Bus) インタフェースを特たせることによ 象ファイルをプリンタにダイレクトプリントアウトがで

【特許請求の範囲】

請求項1】 プリンタにマスストレージクラスのUS B (Universal Serial Bus) イン タフェースを持たせることにより、マスストレージクラ スのデバイスの投続ができ、画像ファイルを前記プリン タにダイレクトプリントアウトができることを特徴とす るプリントシステム。

Bインタフェースと前記デバイスのUSBインタフェー 【請求項2】 前記プリンタとマスストレージクラスの 前記デバイスとを接続するために、前記プリンタのUS スとをUSBケーブルで接続し、前配プリンタの前記U 備え、各種指示を出力するキーと指示内容を表示するL SBインタフェースには、パラレルインタフェースコネ ピュータからのBULK要求、Interrupt (割 込) 要求に対してデータを前記ホストコンピュータに送 るUSBシリーズBプラグコネクタと、前配デバイスと 接続して前記ホストコンピュータと同じ動作をしてBU F.K要求、Interrupt要求を利用して前記デバ イスに要求をだすUSBシリーズAプラグコネクタとを クタと、ホストコンピュータと接続して前配ホストコン CDパネルとを有するオペレータパネルを備える前記プ リンタを備えることを特徴とする請求項1配載のプリン トシステム。

の指示をだすCAPTUREキーと、前配デバイスに配 るSELECTキーとから構成される前記プリンタの前 [請求項3] 前記デバイスと接続時、前記デバイスへ 憶されている画像ファイル名及び前配デバイスの状態を 表示するLCDパネルと、LCD表示を上にスクロール するアップキーとLCD表示を下にスクロールするダウ ンキーと、画像ファイルの選択及びモード選択に使用す 記オペレータパネルを備えることを特徴とする請求項2 記載のプリントシステム。

【請求項5】 前記デバイスがリムーパブルデスクであ 【請求項4】 前記デバイスがデジタルカメラであるこ 【静水項6】 前記デバイスがハードディスクであるこ ることを特徴とする請求項1記載のプリントシステム。 とを特徴とする請求項1記載のプリントシステム。 とを特徴とする請求項1記載のプリントシステム。 [発明の詳細な説明]

[発明の属する技術分野] 本発明はプリントシステムに 関し、特にプリンタのオペレータパネルからのキー入力 によりデジタルカメラゼの撮影ができ、撮影した画像フ アイル、または、デジタルカメラで過去に撮影した画像 ファイル、マスストレージに入っている画像ファイルを **選択して印刷ができることを特徴とするプリントシステ** 【従来の技術】従来、この種のプリントシステムは、た とえば特開平11-252489号公報に示されるよう

[0002]

特開2001-290612

3

して画像を転送する時には、プリンタ側から画像撮影装 に、デジタルカメラ等の画像撮影装置をプリンタに直絡 置に給電可能として、電灯線にACアダプタを2つ接続 なり、また、画像データを転送している時には、画像撮 影装置の数示手段への通電を低減して、電源容量が不足 する必要がなく、電源周りのコードの取り回しが簡単と する頃れを防止する。

線を介して、ACアダプタの接続されたプリンタ側から [0003] デジタルカメラをUSB (Univers al Serial Bus)ケーブルを介してプリン 10 夕に接続した時に、このUSBケーブルに含まれる給電 デジタルカメラに給電される。 [0004]

[発明が解決しようとする課題] この従来のプリントシ **ステムにおける第1の問題点は、従来技術のプリントシ** ステムでは、カメラからのオペレータ動作でしかプリン タにプリントアウトができない、ということである。

【0005】第2の問題点は、従来技術では、マススト イレクトにブリントアウトができない、ということであ ワージデバイスが接続された場合データをプリンタにダ

ន

[0006] 本発明の目的は、プリンタのオペレータバ 撮影した画像ファイル、または、デジタルカメラで過去 に撮影した画像ファイル、セスストレージに入っている ネルからのキー入力でデジタルカメラでの撮影ができ、

画像ファイルを選択して印刷ができることを特徴とする [課題を解決するための手段] 本発明のプリントシステ プリントシステムを提供することにある。 [0001]

ムは、プリンタにマスストレージクラスのUSBインタ フェースを持たせることにより、マスストレージクラス のデパイスが接続ができ、画像ファイルを前記プリンタ にダイレクトプリントアウトができる。 జ

【0008】また、本発明のプリントシステムは、前配 プリンタとマスストレージクラスの前配デバイスとを接 続するために、前記プリンタのUSBインタフェースと ルで接続し、前記プリンタの前記USBインタフェース には、パラレルインタフェースコネクタと、ホストコン ピュータと接続して前記ホストコンピュータからのBU ータを前記ホストコンピュータに送るUSBシリーズB プラグコネクタと、前配デバイスと接続して前配ホスト SBシリーズAプラグコネクタとを備え、各種指示を出 前記デバイスのUSBインタフェースとをUSBケーブ LK要求、Interrupt (割込) 要求に対してデ コンピュータと回じ包行をしたBULK既长、Inte r r u p t 要求を利用して前配デバイスに要求をだすU 力するキーと指示内容を投示するLCDパネルとを有す \$

[0009] さらに、本発明のプリントシステムは、前 50 配デバイスと接続時、前配デバイスへの指示をだすCA るオペレータパネルを備える前配プリンタを備える。

特開2001-290612

ファイル名及び前配デバイスの状態を表示するLCDパ PTUREキーと、村記デバイスに記憶されている画像 ネルと、LCD投示を上にスクロールするアップキーと LCD投示を下にスクロールするダウンキーと、画像フ ナイルの選択及びモード選択に使用するSELECTキ ーとから構成される前記プリンタの前記オペワータパネ

[0011] さらに、本発明のプリントシステムは、前 [0010] さらに、本発明のプリントシステムは、前 配デパイスがデジタルカメラであることを特徴とする。

[0012] さらに、本発明のプリントシステムは、前 配デバイスがハードディスクであることを特徴とする。

[0013]

配デバイスがリムーパブルデスクであることを特徴とす

[発明の実施の形態] 本発明のプリントシステムは、プ リンタにマスストレージクラスのUSBインタフェース スが接続ができ、画像ファイルをプリンタにダイレクト を持たせることにより、マスストレージクラスのデバイ プリントアウトができることを特徴とする。

【0014】次に、本発明の実施の形態について図面を **参阪した詳描に説明する。**

図、図2はこの実施形態のプリンタのインタフェースの 一例を示す図、図3はこの実施の形態のプリンタのオペ レータパネルの一例を示す図である。図1、図2、図3 [0015] 図1は本発明の一実施の形態を示す接続 を参照して、この実施の形態の構成を説明する。

[0016] 以下に、マスストレージクラスのデバイス として、デジタルカメラを使用する場合について述べ

【0017】プリンタ10とデジタルカメラ11とを接 続するために、プリンタ10のUSBインタフェース1 2とデジタルカメラ11のUSBインタフェース13と

[0018] プリンタのUSBインタフェース12に をUSBケーブル 1 4で接続をする。

ータとなるパーソナルコンピュータと接続してホストコ ンピュータからのデータ送信、または受信の要求である BULK要求や、Interrupt (割込)要求に対 Bプラグコネクタ21と、デバイスに相当するデジタル 出力するキー30,31,32,33と指示内容を表示 FELCD (Liquid Crystal Disp は、従来から使われているプリンタインタフェースのパ ラレルインタフェースコネクタ20と、ホストコンピュ してデータをホストコンピュータに送るUSBシリーズ カメラ 1 1 と接続してホストコンピュータと同じ動作を してBULK要求、Interrupt要求を利用して 22とを持つ。さらに、プリンタ10には、各種指示を l a y)パネル34とを有するオペレータパネル15を デパイスに要求をだすUSBシリーズAプラグコネクタ

ය

30と、デジタルカメラ11の中に入っている画像ファ L CD表示を上にスクロールするアップキー31とLC D 表示を下にスクロールするダウンキー32と、画像フ は、デジタルカメラ11と接続時、デジタルカメラ11 rイルの選択、モード選択に使用するSELECTキー イル名、カメラの状態を表示するLCDパネル34と、 のシャッタを切るように指示をだすCAPTUREキ・ 【0019】プリンタ10のオペレータパネル15に 33とから構成される。

【0020】図4はプリンタ動作の流れ図であり、図5 はプリンタとデジタルカメラとの信号の流れを示す図で ある。図1,図2,図3に併せて図4及び図5を参照し て、この実施の形態の動作を説明する。 2

【0021】プリンタ10とデジタルカメラ11とを接 焼して、プリンタ10がデジタルカメラ11にダイレク [0022] USBシリーズAプラグコネクタ22にデ ジタルカメラ11をUSBケーブル14で接続して、デ ジタルカメラ 1 1にダイレクトアクセスするモードに入 ると、LCDパネル34は図3に示すようなファイル名 トアクセスするモードに入っている状態から説明する。 を扱示する (S40)。

ラ11のシャッタを切るように指示を出すCAPTUR Eキー30によりキー入力をすると、デジタルカメラ1 る。デジタルカメラ11は、撮影処理59を行う(S 4 1)。プリンタ10は、ある一定間隔おきにStatu 【0023】次にオペレータパネル15のデジタルカメ 1にはCapture Command50が送られ s Command51を送る。

時、画像処理中ステータス52をプリンタに返す。画像 処理中の時は、LCDパネル34に「Processi 【0024】デジタルカメラ11が画像処理中60の n g 」が表示される (S42)。

e 状態ステータス54を受情すると画像処理をしたと認 類して、LCDパネル34には、図3のようにデジタル [0026] 次にプリンタのオペレータはLCDパネル 押してデジタルカメラ11にRead Command 55を送る。Read Command55は、画像デ - タのシリンダ・ヘッダ・セレクタ・セクタ・セクタ数 (デパイスのメモリエリアを選択する為に、マスストレ -ジデバイスの権成上、シリンダ、ヘッダ、セクタとい ンダの3番、ヘッダ1番、セクタ4番とセットして、そ いからの部み出しサイズをシリンダ教にカットして決め スち4をプリンタ10に返す。プリンタ10は、141 34 接示のスクロールキーのアップキー31と、ダウン キー32で画像ファイルを選択してSELECTキーを うものが存在し、統み出し位置を決めるのに例えばシリ られる) の選択を行うものである。デジタルカメラ11 メラが画像処理中60でない時、Idle状態ステータ カメラ11の中のファイル名表示に変わる (S43)。 [0025] Status Command534,

ş

ad Command ACK (Acknowledg セレクト処理を行う。次にプリンタ10は画像データ要 水としてUSBのBulkに対して (USBのデータ骸 送を行うポートに対して) Data Request5 7をだす。デジタルカメラ11は画像データ転送63状 態になり、画像データ58をプリンタ10に送る。選択 したファイルが終了するまでRead Command 55に戻り、画像データの受信を繰り返す。受信したデ ータが画像ファイルの時、プリンタ10は、はじめから オペレータパネル15、または、デフォルト設定で溜択 されていた書式に画像ファイルを印刷データに変換して プリントアウトを行う (S45)。その後、S41, S 44に戻り処理を続けることができる。他の実施の形態 の動作説明を図1,図2,図3に併せて図4,図5を利 1と置き換える)との接続について、ダイレクトアクセ スするモードに入っている状態から説明する。デバイス を表示する。その後、S44の動作から利用が可能にな は、画像データ選択62が終わるとプリンタ10にRe e) 56を返す (S44)。この処理は、撮影したデー 用して、プリンタ10と、USBインタフェースのマス [0027] USBシリーズAプラグコネクタ22にマ スストレージクラスのデバイスをUSBケーブル14で 接続して、LCDパネル34に図3のようにファイル名 タを直ぐに印刷するモードの時は、自動的に画像データ ストレージクラスのデバイス (図1のデジタルカメラ1 とは、リムーパブルデスク、ハードディスク箏をさす。

あるスクロールキーのアップキー31と、ダウンキー3 2 で画像ファイルを選択してSELECTキー33 押す Command ACK (Acknowledge) 5 [0028] ブリンタ10のオペレータパネル15上に とマスストレージデバイスにRead Command **択を行うものである。マスストワージ扩バイスは、画像** 55を送る。Read Command55は、データ のシリンダ・ヘッダ・セレクタ・セクタ・セクタ数の選 データの選択 6 2 が終わるとプリンタ 1 0 に R e a d

equest57をだす。マスストレージデバイスは画 【0029】次にプリンタ10は画像データ要求として 像データ転送63状態になり、画像データ58をプリン USBのデータ転送を行うポートに対してData R タ10に送る。選択したファイルが終了するまでRea d Command55に戻り受信を繰り返す。受信し たデータが画像ファイルの時、プリンタ10は、はじめ 6を返す (S44)。

強択されていた替式に画像ファイルを印刷データに変換 してプリントアウトを行う (S45)。その後、S44 からオペレータパネル15、または、デフォルト設定で に戻り処理を続けることができる。

[0000]

年間2001-290612

₹

ることと、デジタルカメラの中の画像選択がプリンタか デジタルカメラのシャッタを切るように撮影指示が出せ らできることと、画像ファイルをプリントアウトするこ ラのリモート動作ができることにより、容易にプリント とを可能になることにより、プリンタからデジタルカメ [発明の効果] 以上説明したように、本発明の効果は、 プリンタとデジタルカメラがダイレクトに接続ができ、 システムが実現できることである。 2

[0031] また、プリンタとUSBインタフェースの をプリントアウト可能になることで、マスストレージデ パイスの画像ファイルをパーンナルコンピュータなした プリンタにプリントアウトすることを可能にすることで **ドイル踏状がプリンタかわたきあいとと、画像ファイル** マスストレージデバイスとのダイレクト協能ができ、

[図面の簡単な説明]

[図2] この実施形態のプリンタにあるインタフェース 【図1】本発明の一実施の形態を示す接続図である。

ロー例を示す図である。

[図3] いの実施形態のプリンタにむるオペワータパネ 70一例を示す図かめる。

[図5] この実施の形態のプリンタとデジタルカメラと 「図4」この実施形態のプリンタ動作の流れ図である。

る。次にS44から説明する。

の信号の流れを示す図である。 [符号の説明] ಜ

プリンタ 0 イジタトオメリ

USBインタフェース 0

USBインタフェース 33

USBケーブル 4

オペレータパネル 15

パラフルインタフェースコネクタ 20

USBシリーズBプラグコネクタ USBシリーズAプラグコネクタ 2 2

CAPTURE* 30

\$

アップキー

ダウンキー 32

SELECTキー 33

してロパネル

[88]

